

**STATE OF ARIZONA**  
**AQUIFER PROTECTION PERMIT NO. P-105889**  
**PLACE ID 128125, LTF 44254**

**1.0 AUTHORIZATION**

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2, and 3, Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A.A.C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, City of Avondale is hereby authorized to operate the City of Avondale McDowell Recharge Basins located at 12100 West McDowell Road, Avondale, Maricopa County, Arizona, over groundwater of the Phoenix Active Management Area in Township 2 N, Range 1 W, Section 35, SW¼ of SW¼ of the Gila and Salt River Baseline and Meridian.

This permit becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods) unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain the permitted facilities:

1. Following all the conditions of this permit including the design and operational information documented or referenced below, and
2. Such that Aquifer Water Quality Standards (AWQS) are not violated at the applicable point(s) of compliance (POC) set forth below or if an AWQS for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant and as determined at the applicable POC occurs as a result of the discharge from the facility.

**1.1 PERMITTEE INFORMATION**

**Facility Name:** City of Avondale McDowell Recharge Basins  
**Facility Address:** 12100 West McDowell Road  
Avondale, Arizona 85323  
**County:** Maricopa

**Permittee:** City of Avondale  
**Permittee Address:** 399 East Lower Buckeye road, Suite 100  
Avondale, Arizona 85323

**Facility Contact:** Barbara Kirkland, Senior Wetlands Recharge Operator  
**Emergency Phone No.:** (623) 333-4428

**Latitude/Longitude:** 33°27' 54" N/ 112°19' 10" W  
**Legal Description:** Township 02N, Range 01W, Section 35, SW¼ of SW¼, Gila and Salt River Baseline and Meridian

**1.2 AUTHORIZING SIGNATURE**

\_\_\_\_\_  
**Joan Card, Director**  
Water Quality Division  
Arizona Department of Environmental Quality

Signed this \_\_\_\_\_, day of \_\_\_\_\_, 2009

## **2.0 SPECIFIC CONDITIONS [A.R.S. §§ 49-203(4), 49-241(A)]**

### **2.1 Facility / Site Description [A.R.S. § 49-243(K)(8)]**

The facility is a recharge underground storage facility which is designed to recharge up to 13.5 million gallons per day (MGD) or 15,000 acre-feet per year, a combination of Central Arizona Project (CAP) water and Salt River Project (SRP) water from the Crystal Garden Wetlands and treated effluent from City of Avondale Water Reclamation Facility (WRF, P-100573).

The McDowell Recharge Basins (Basins) are located north of McDowell Road adjacent to the east bank of the Agua Fria River. The Basins comprise twenty seven acres of recharge basins with four individual recharge basins surrounded by 6-foot berms. The individual basins are laid out in an irregularly shaped pattern to conform to the local topography. The overall shape of the facility is triangular. The facility has underground Storage Permit (# 71-565257) issued by Arizona Department of Water Resources (ADWR). Operating depth of the basins range from 2 to 4 feet and is controlled by a gate valve at the recharge weir to govern the flow to each basin. Water levels will be varied in order to optimize infiltration rates. The flow rate of incoming surface water from wetlands and reclaimed water from the WRF will be measured separately at the recharge weirs before flow splitting to the basins.

Recharge creates a "mound" at the top of the water table. Reviewing the operational history, it appears that in the area of the Basins, the top of the water table generally ranges from ~ 65 to 95 feet below ground surface (bgs) in response to recharge. The depth to water in the area is approximately 85 feet bgs. The average groundwater flow direction in the vicinity of the basins is to the northwest, and west-northwest.

The permittee shall not begin to recharge Water Reclamation Facility effluent to basins until eight ambient groundwater sampling events have been completed and notified ADEQ.

The site includes the following permitted discharging facilities:

<b>Facility</b>	<b>Latitude</b>	<b>Longitude</b>
McDowell Recharge Basins	33° 27' 54" N	112° 19' 10" W

### **Annual Registration Fee [A.R.S. § 49-242]**

The Annual Registration Fee for this permit is established by A.R.S. § 49-242(E) and is payable to the Arizona Department of Environmental Quality (ADEQ) each year. The design flow is 13.5 million gallons per day or 15,000 acre-feet per year.

### **Financial Capability [A.R.S. § 49-243(N) and A.A.C. R18-9-A203 ]**

The permittee has demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The permittee shall maintain financial capability throughout the life of the facility. The Permittee has submitted a closure and post-closure cost estimate of \$166,680. The financial capability was demonstrated through R18-9-A203(B)(1)and(2).

### **2.2 Best Available Demonstrated Control Technology [A.R.S. § 49-243(B) and A.A.C. R18-9-A202(A)(5)]**

Not applicable per A.A.C. R 18-9A201(C) for a storage facility.

#### **2.2.1 Engineering Design**

The Recharge Site was designed according to the Aquifer Protection Permit (APP) Application prepared by Christine H. Close, P.E., Damon S. Williams Associates, LLC, dated May 16, 2007.

**2.2.2 Site-specific Characteristics**

Site specific characteristics were not used to determine BADCT.

**2.2.3 Pre-operational Requirements**

Not Applicable

**2.2.4 Operational Requirements**

1. The permittee shall maintain a copy of the new Operation and Maintenance (O & M) Manual at the City of Avondale WRF site at all times and shall be available upon request during inspections by ADEQ personnel.
2. The pollution control structures shall be inspected for the items listed in Section 4.2, Table III - FACILITY INSPECTION (OPERATIONAL MONITORING).
3. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and material(s) used shall be documented on the Self-Monitoring Report Form (SMRF) submitted quarterly to the ADEQ Water Quality Compliance Section, Data Unit (see Section 2.7.5).

**2.2.5 Reclaimed Water Classification**

[A.A.C. R18-9-703(C)(2)(a), A.A.C. R18-11-303 through 307]

Not Applicable.

**2.3 Discharge Limitations [A.R.S. §§ 49-201(14), 49-243 and A.A.C. R18-9-A205(B)]**

1. The permittee is authorized to operate the McDowell Recharge Basins with a maximum average annual flow of 13.5 MGD or 15,000 acre-feet per year.
2. Specific discharge limitations are listed in Section 4.2, Tables IA and IB.

**2.4 Point of Compliance (POC) [A.R.S. § 49-244]**

The Points of Compliance (POCs) are designated at the following locations:

POC #	POC Location	Latitude	Longitude
1	Located near Basin 4 at the northeast corner of the entire facility, MW-1	33°28'12" N	112°19'12.9" W
2	Located at south of the southwest corner of the basins in Friendship Village which is more than 750 feet from PMA, MW-2.	33°27'42.2" N	112°19'18.3" W
3	Located at south of the center of the basins which is less than 750 feet from PMA, MW-3	33°27'47.7" N	112°19'17.1" W

Groundwater monitoring is required initially at point of compliance wells POC-1 and POC-2. Monitoring and installation of well at POC-3 shall be required only if exceedance of ALs occurs at POC-2 (MW-2) as described in Section 3.0. POC-1 and POC-3 are hazardous/non-hazardous, where as POC-2 is non-hazardous wells.

These POCs are not northwest of the facility as is the regional gradient. However, the POC locations are within groundwater mound caused by the operation of the basins and are downgradient at a local scale. The POCs are within the DIA.

The Director may amend this permit to designate additional points of compliance if information on groundwater gradients or groundwater usage indicates the need.

## **2.5 Monitoring Requirements [A.R.S. § 49-243(K)(1), A.A.C. R18-9-A206(A)]**

All monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. All sampling, preservation and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks and duplicate samples shall also be obtained, and Chain-of-Custody procedures shall be followed, in accordance with currently accepted standards of professional practice. The permittee shall consult the most recent version of the ADEQ Quality Assurance Project Plan (QAPP) and Environmental Protection Agency (EPA) 40 Code of Federal Regulations (CFR) PART 136 for guidance in this regard. Copies of laboratory analyses and Chain-of-Custody forms shall be maintained at the permitted facility. Upon request these documents shall be made immediately available for review by ADEQ personnel.

### **2.5.1 Pre-Operational Monitoring**

Not Applicable

### **2.5.2 Discharge Monitoring**

The permittee shall monitor the wastewater according to Section 4.2, Table IA and IB. According to Table IA effluent shall be monitored for flow at the recharge weir, inflow from wetlands and recharge weir, inflow from Water Reclamation Facility. According to Table IB effluent quality monitoring is conducted under the City of Avondale Water Reclamation Facility APP (P-100573) at effluent pump station.

### **2.5.3 Reclaimed Water Monitoring**

Not Applicable

### **2.5.4 Groundwater Monitoring and Sampling Protocols**

The permittee shall monitor the groundwater according to Section 4.2, Table IIA, IIB and IIC.

Static water levels shall be measured and recorded prior to sampling. Wells shall be purged of at least three borehole volumes (as calculated using the static water level) or until field parameters (pH, temperature, conductivity) are stable, whichever represents the greater volume. If evacuation results in the well going dry, the well shall be allowed to recover to 80 percent (%) of the original borehole volume, or for 24 hours, whichever is shorter, prior to sampling. If after 24 hours there is not sufficient water for sampling, the well shall be recorded as "dry" for the monitoring event. An explanation for reduced pumping volumes, a record of the volume pumped, and modified sampling procedures shall be reported and submitted with the SMRF.

#### **2.5.4.1 POC Well Replacement**

In the event that one or more of the designated POC wells should become unusable or inaccessible due to damage, insufficient water in the well(s) for more than two (2) sampling events, or any other event, a replacement POC well shall be constructed and installed upon approval by ADEQ. If the replacement well is fifty feet or less from the original well, the alert levels (ALs) and aquifer quality limits (AQLs) established for the previously designated POC well shall apply to the replacement well.

**2.5.5 Surface Water Monitoring and Sampling Protocols**

Routine surface water monitoring is not required under the terms of this permit.

**2.5.6 Facility / Operational Monitoring**

Operational monitoring inspections shall be conducted according to Section 4.2, Table III.

1. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and materials used shall be documented on the SMRF submitted quarterly to the ADEQ Water Quality Compliance Section, Data Unit. If none of the conditions occur, the report shall say "no event" for a particular reporting period. If the facility is not in operation, the permittee shall indicate this on the SMRF.
2. The permittee shall submit data required in Section 4.2, Table III regardless of the operating status of the facility unless otherwise approved by the Department or allowed in this permit.

**2.5.7 Analytical Methodology**

All samples collected for compliance monitoring shall be analyzed using Arizona state approved methods. If no state approved method exists, then any appropriate EPA-approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters specified in this permit. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of Arizona state certified laboratories can be obtained at the address below:

Arizona Department of Health Services  
Office of Laboratory Licensure and Certification  
250 North 17<sup>th</sup> Ave.  
Phoenix, AZ 85007  
Phone: (602) 364-0720

**2.5.8 Installation and Maintenance of Monitoring Equipment**

Monitoring equipment required by this permit shall be installed and maintained so that representative samples required by the permit can be collected. If new groundwater wells are determined to be necessary, the construction details shall be submitted to the ADEQ Groundwater Section for approval prior to installation and the permit shall be amended to include any new monitoring points.

**2.6 Contingency Plan Requirements**

[A.R.S. § 49-243(K)(3), (K)(7) and A.A.C. R18-9-A204 and R18-9-A205]

**2.6.1 General Contingency Plan Requirements**

At least one copy of the approved contingency and emergency response plan(s) submitted in the application shall be maintained at the location where day-to-day decisions regarding the operation of the facility are made. The permittee shall be aware of and follow the contingency and emergency plans.

Any AL exceedance, or violation of an AQL, discharge limit (DL), or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of an AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL or DL. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling has been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition.

## **2.6.2 Exceeding of Alert Levels/Performance Levels**

### **2.6.2.1 Exceeding of Performance Levels Set for Operational Conditions**

1. If an operational performance level (PL) set in Section 4.2, Table III has been exceeded the permittee shall:
  - a. Notify the ADEQ Water Quality Compliance Section (by phone or fax, see Section 2.7.5) within five days of becoming aware of the exceedance.
  - b. Submit a written report to the ADEQ Water Quality Compliance Section within 30 days after becoming aware of the exceedance. The report shall document all of the following:
    - (1) A description of the exceedance and its cause;
    - (2) The period of the exceedance, including exact date(s) and time(s), if known, and the anticipated time period during which the exceedance is expected to continue;
    - (3) Any action taken or planned to mitigate the effects of the exceedance or spill, or to eliminate or prevent recurrence of the exceedance or spill;
    - (4) Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an AWQS; and
    - (5) Any malfunction or failure of pollution control devices or other equipment or process.
2. The facility is no longer on alert status once the operational indicator no longer indicates that a PL is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

### **2.6.2.2 Exceeding of Alert Levels (ALs) Set for Discharge Monitoring**

1. If an AL set in Section 4.2, Table IA and Table IB has been exceeded, the permittee shall immediately investigate to determine the cause. The investigation shall include the following:
  - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the exceedance;
  - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences; and

- c. If the investigation procedures indicated in (a) and (b) above fail to reveal the cause of the exceedance, the permittee shall sample individual waste streams composing the wastewater for the parameter(s) in question, if necessary to identify the cause of the exceedance.
2. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to the AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6.
3. Within thirty days of an AL exceedance, the permittee shall submit the laboratory results to the ADEQ Water Quality Compliance Section along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem.
4. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

**2.6.2.2.1. Exceeding Permit Flow Limit**

1. If the AL for average monthly flow in Section 4.2, Table IA is exceeded, the permittee shall submit an application to ADEQ for an APP amendment to expand the WRP or submit a report detailing the reasons an expansion is not necessary.
3. Acceptance of the report instead of an application for expansion requires ADEQ approval.

**2.6.2.3 Exceeding of Alert Levels in Groundwater Monitoring**

**2.6.2.3.1 Alert Levels for Indicator Parameters**

No ALs were established for indicator parameters.

**2.6.2.3.2 Alert Levels for Pollutants with Numeric Aquifer Water Quality Standards**

1. In the case of an exceedance of an AL for a pollutant set in Section 4.2, Table IIA, IIB and IIC the permittee may conduct verification sampling within five days of becoming aware of the exceedance. The permittee may use results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms the AL exceedance or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring for the pollutants set in Section 4.2, Table IIA, IIB and IIC as follows:

Specified Monitoring Frequency (Section 4.2, Table II)	Monitoring Frequency for AL Exceedance
Daily	Daily
Weekly	Daily
Monthly	Weekly
Quarterly	Monthly
Semi-annually	Quarterly
Annually	Quarterly

In addition, the permittee shall immediately initiate an investigation of the cause of the AL exceedance, including inspection of all discharging units and all related pollution control devices, review of any operational and maintenance practices that might have resulted in an unexpected discharge, and hydrologic review of groundwater conditions including upgradient water quality.

3. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6. Alternatively, the permittee may submit a technical demonstration, subject to written approval by the Groundwater Section, that although an AL has been exceeded, pollutants are not reasonably expected to cause a violation of an AQL. The demonstration may propose a revised AL or monitoring frequency for approval in writing by the Groundwater Section.
4. Within 30 days after confirmation of an AL exceedance, the permittee shall submit the laboratory results to the Water Quality Compliance Section along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem.
5. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.
6. The increased monitoring required as a result of an AL exceedance may be reduced to the monitoring frequency in Section 4.2, Table II if the results of four sequential sampling events demonstrate that no parameters exceed the AL.
7. If the increased monitoring required as a result of an AL exceedance continues for more than six sequential sampling events, the permittee shall submit a second report documenting an investigation of the continued AL exceedance within 30 days of the receipt of laboratory results of the sixth sampling event.
8. Currently groundwater monitoring is not required at POC # 3. However, if during routine groundwater monitoring at POC# 2 has two consecutive exceedances of an ALs, or three exceedances of an ALs in a one year period, a monitor well at POC #3 shall be installed and continue to monitor for the parameters listed in Table IIB.



**2.6.2.3.3 Alert Levels to Protect Downgradient Users from Pollutants Without Numeric Aquifer Water Quality Standards**

Not required at time of issuance.

**2.6.2.3.4 Alert Levels for exceeding Water Levels ( Recharge Mound Monitoring)**

In case of an exceedance of an Alert Level at the wells listed in Table IIC, the permittee shall immediately implement their contingency plan submitted along with the APP application, dated May 16<sup>th</sup>, 2007. Within 30 days of an AL exceedance the permittee shall submit a report that discusses the following:

1. Changes in the recharge mound levels that could affect the Phoenix-Goodyear Airport Superfund Site, the Buckeye waterlogged area, the City of Goodyear recharge pilot project, the septic system of a nearby trailer park, or nearby sand and gravel operations.
2. Excessive mounding at the recharge site.
3. Flowage of water into the Agua Fria caused by shallow groundwater ponding above the low permeability lenses in the aquifer.
4. Undesirable changes in water quality.

**2.6.3 Discharge Limit Violation**

1. If a DL set in Section 4.2, Tables IA or IB has been violated, the permittee shall immediately investigate to determine the cause. The investigation shall include the following:
  - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the violation;
  - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;
  - c. If the investigation procedures indicated in (a) and (b) above fail to reveal the cause of the violation, the permittee shall sample individual waste streams composing the wastewater for the parameters in violation, if necessary to identify the cause of the violation.

The permittee shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. The permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

2. The permittee shall comply with the freeboard requirements as specified in Section 4.2, Table III (Facility Inspections) to prevent the overtopping of an impoundment or sludge drying bed. If an impoundment or sludge drying bed is overtopped, the permittee shall follow the requirements in Section 2.6.5.3 and the reporting requirements of Section 2.7.3.

3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, or other actions.

#### **2.6.4 Aquifer Quality Limit Violation**

1. If an AQL set in Section 4.2, Table II has been exceeded, the permittee may conduct verification sampling within five days of becoming aware of the exceedance. The permittee may use results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
2. If verification sampling confirms that an AQL was violated for any parameter or if the permittee opts not to perform verification sampling, then, the permittee shall increase the frequency of monitoring as follows:

Specified Monitoring Frequency (Section 4.2, Table II)	Monitoring Frequency for AQL Exceedance
Daily	Daily
Weekly	Daily
Monthly	Weekly
Quarterly	Monthly
Semi-annually	Quarterly
Annually	Quarterly

In addition, the permittee shall immediately initiate an evaluation for the cause of the violation, including inspection of all discharging units and all related pollution control devices, and review of any operational and maintenance practices that might have resulted in unexpected discharge.

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. A verified exceedance of an AQL will be considered a violation unless the permittee demonstrates within 30 days that the exceedance was not caused or contributed to by pollutants discharged from the facility. Unless the permittee has demonstrated that the exceedance was not caused or contributed to by pollutants discharged from the facility, the permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water, or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

3. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

#### **2.6.5 Emergency Response and Contingency Requirements for Unauthorized Discharges pursuant to A.R.S. § 49-201(12) and pursuant to A.R.S. § 49-241**

##### **2.6.5.1 Duty to Respond**

The permittee shall act immediately to correct any condition resulting from a discharge pursuant to A.R.S. § 49-201(12) if that condition could pose an imminent and substantial endangerment to public health or the environment.

#### **2.6.5.2 Discharge of Hazardous Substances or Toxic Pollutants**

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of suspected hazardous substances (A.R.S. § 49-201(19)) or toxic pollutants (A.R.S. § 49-243(I)) on the facility site, the permittee shall promptly isolate the area and attempt to identify the discharged material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the ADEQ Water Quality Compliance Section at (602) 771-4497 within 24 hours of discovering the discharge of hazardous material which: a) has the potential to cause an AWQS or AQL exceedance; or b) could pose an endangerment to public health or the environment.

#### **2.6.5.3 Discharge of Non-hazardous Materials**

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of non-hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the site cleaned up as soon as possible. The permittee shall notify the ADEQ Water Quality Compliance Section at (602) 771-4497, within 24 hours of discovering the discharge of non-hazardous material which: a) has the potential to cause an AQL exceedance; or b) could pose an endangerment to public health or the environment.

#### **2.6.5.4 Reporting Requirements**

The permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to the ADEQ Water Quality Compliance Section, mail Code 5415B-1, 1110 West Washington Street, Phoenix, Arizona, 85007, within 30 days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure, and facility response activities and include all information specified in Section 2.7.3. If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in the notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

#### **2.6.6 Corrective Actions**

Specific contingency measures identified in Section 2.6 have already been approved by ADEQ and do not require written approval to implement.

With the exception of emergency response actions taken under Section 2.6.5, the permittee shall obtain written approval from the Groundwater Section prior to implementing a corrective action to accomplish any of the following goals in response to an AL exceedance, or violation of an AQL, DL, or other permit condition:

1. Control of the source of an unauthorized discharge;
2. Soil cleanup;
3. Cleanup of affected surface waters;
4. Cleanup of affected parts of the aquifer; and/or
5. Mitigation to limit the impact of pollutants on existing uses of the aquifer.

Within 30 days of completion of any corrective action, the operator shall submit to the ADEQ Water Quality Compliance Section (see Section 2.7.5), a written report describing the causes, impacts, and actions taken to resolve the problem.

### **2.7 Reporting and Recordkeeping Requirements**

**[A.R.S. § 49-243(K)(2) and A.A.C. R18-9-A206(B) and R18-9-A207]**

**2.7.1 Self-Monitoring Report Form**

1. The permittee shall complete the SMRF provided by ADEQ. The completed SMRF shall be submitted to the Water Quality Compliance Section, Data Unit.
2. The permittee shall complete the SMRF to the extent that the information reported may be entered on the form. If no information is required during a quarter, the permittee shall enter "not required" on the SMRF and submit the report to ADEQ. The permittee shall use the format devised by ADEQ.
3. The tables contained in Section 4.0 list the parameters to be monitored and the frequency for reporting results for compliance monitoring. Monitoring and analytical methods shall be recorded on the SMRF. The permittee reserves the right to request a relaxation of the monitoring frequency for metals and volatile organic compounds through a permit amendment if the data indicate that water quality standards are being achieved consistently.
4. In addition to the SMRF, the information contained in A.A.C. R18-9-A206(B)(1) shall be included for an AL exceedance, or violation of an AQL, DL, or any other permit condition being reported in the current reporting period.

**2.7.2 Operation Inspection / Log Book Recordkeeping**

A signed copy of this permit shall be maintained at all times at the location where day-to-day decisions regarding the operation of the facility are made. A log book (paper copies, forms, or electronic data) of the inspections and measurements required by this permit shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for ten years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel. The information in the log book shall include, but not be limited to, the following information as applicable:

1. Name of inspector;
2. Date and shift inspection was conducted;
3. Condition of applicable facility components;
4. Any damage or malfunction, and the date and time any repairs were performed;
5. Documentation of sampling date and time; and
6. Any other information required by this permit to be entered in the log book.

Monitoring records for each measurement shall comply with R18-9-A206(B)(2).

**2.7.3 Permit Violation and Alert Level Status Reporting**

1. The permittee shall notify the Water Quality Compliance Section (see Section 2.7.5) in writing within five days (except as provided in Section 2.6.5) of becoming aware of an AL exceedance, or violation of any permit condition, AQL, or DL.
2. The permittee shall submit a written report to the Water Quality Compliance Section within 30 days of becoming aware of the violation of any permit condition, AQL, or DL. The report shall document all of the following:
  - a. Identification and description of the permit condition for which there has been a violation and a description of the cause;
  - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue;
  - c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation;

- d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an AWQS;
- e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring; and
- f. Description of any malfunction or failure of pollution control devices or other equipment or processes.

#### **2.7.4 Operational, Other or Miscellaneous Reporting**

The permittee shall complete the SMRF provided by the Department to reflect facility inspection requirements designated in Section 4.2, Table III and submit to the ADEQ Water Quality Compliance Section, Data Unit (see Section 2.7.5) quarterly along with other reports required by this permit. Facility inspection reports shall be submitted no less frequently than quarterly, regardless of operational status.

If the treatment facility is classified for reclaimed water under this permit, the permittee shall submit the reclaimed water monitoring results and flow volumes to any of the following in accordance with A.A.C. R18-9-703(C)(2)(c):

- 1. Any reclaimed water agent who has contracted for delivery of reclaimed water from the permittee; and
- 2. Any end user who has not waived interest in receiving this information.

#### **2.7.5 Reporting Location**

All SMRFs shall be submitted to:

Arizona Department of Environmental Quality  
Water Quality Compliance Section, Data Unit  
Mail Code: 5415B-1  
1110 West Washington Street  
Phoenix, Arizona 85007  
Phone (602) 771-4681

All documents required by this permit to be submitted to the Water Quality Compliance Section shall be directed to the following address:

Arizona Department of Environmental Quality  
Water Quality Compliance Section  
Mail Code: 5415B-1  
1110 West Washington Street  
Phoenix, Arizona 85007  
Phone (602) 771-4497  
Fax (602) 771-4505

All documents required by this permit to be submitted to the Groundwater Section shall be directed to:

Arizona Department of Environmental Quality  
Groundwater Section  
Mail Code: 5415B-3  
1110 West Washington Street  
Phoenix, Arizona 85007  
Phone (602) 771-4428

**2.7.6 Reporting Deadline**

The following table lists the quarterly report due dates:

<b>Monitoring conducted during quarter:</b>	<b>Quarterly Report due by:</b>
January-March	April 30
April-June	July 30
July-September	October 30
October-December	January 30

The following table lists the semi-annual and annual report due dates:

<b>Monitoring conducted:</b>	<b>Report due by:</b>
Semi-annual: January-June	July 30
Semi-annual: July-December	January 30
Annual: January-December	January 30

**2.7.7 Changes to Facility Information in Section 1.0**

The Groundwater Section and Water Quality Compliance Section shall be notified (see Section 2.7.5) within ten days of any change of facility information including Facility Name, Permittee Name, Mailing or Street Address, Facility Contact Person, or Emergency Telephone Number.

**2.8 Temporary Cessation [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A209(A)]**

The permittee shall give written notice to the Water Quality Compliance Section before ceasing operation of the facility for a period of 60 days or greater. The permittee shall take the following measures upon temporary cessation:

1. If applicable, direct the wastewater flows from the facility to another state-approved wastewater treatment facility;
2. Correct the problem that caused the temporary cessation of the facility; and
3. Notify ADEQ with a monthly facility status report describing the activities conducted on the treatment facility to correct the problem.

At the time of notification the permittee shall submit for ADEQ approval a plan for maintenance of discharge control systems and for monitoring during the period of temporary cessation. Immediately following ADEQ approval, the permittee shall implement the approved plan. If necessary, ADEQ shall amend permit conditions to incorporate conditions to address temporary cessation. During the period of temporary cessation, the permittee shall provide written notice to the Water Quality Compliance Section of the operational status of the facility every three years. If the permittee intends to permanently cease operation of any facility, the permittee shall submit closure notification, as set forth in Section 2.9 below.

**2.9 Closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9-A209(B)]**

For a facility addressed under this permit, the permittee shall give written notice of closure to the Water Quality Compliance Section of the intent to cease operation without resuming activity for which the facility was designed or operated.

### **2.9.1 Closure Plan**

Within 90 days following notification of closure, the permittee shall submit for approval to the Groundwater Section, a closure plan which meets the requirements of A.R.S. § 49-252 and A.A.C. R18-9-A209(B)(3).

If the closure plan achieves clean closure immediately, ADEQ shall issue a letter of approval to the permittee. If the closure plan contains a schedule for bringing the facility to a clean closure configuration at a future date, ADEQ may incorporate any part of the schedule as an amendment to this permit.

### **2.9.2 Closure Completion**

Upon completion of closure activities, the permittee shall give written notice to the Groundwater Section indicating that the approved closure plan has been implemented fully and providing supporting documentation to demonstrate that clean closure has been achieved (soil sample results, verification sampling results, groundwater data, as applicable). If clean closure has been achieved, ADEQ shall issue a letter of approval to the permittee at that time. If any of the following conditions apply, the permittee shall follow the terms of post-closure stated in this permit:

1. Clean-closure cannot be achieved at the time of closure notification or within one year thereafter under a diligent schedule of closure actions;
2. Further action is necessary to keep the facility in compliance with the AWQS at the applicable POC;
3. Continued action is required to verify that the closure design has eliminated discharge to the extent intended;
4. Remedial or mitigation measures are necessary to achieve compliance with Title 49, Ch. 2; and
5. Further action is necessary to meet property use restrictions.

## **2.10 Post-closure [A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9 A209(C)]**

Post-closure requirements shall be established based on a review of facility closure actions and will be subject to review and approval by the Groundwater Section.

In the event clean closure cannot be achieved pursuant to A.R.S. § 49-252, the permittee shall submit for approval to the Groundwater Section a post-closure plan that addresses post-closure maintenance and monitoring actions at the facility. The post-closure plan shall meet all requirements of A.R.S. §§ 49-201(30) and 49-252 and A.A.C. R18-9-A209(C). Upon approval of the post-closure plan, this permit shall be amended or a new permit shall be issued to incorporate all post-closure controls and monitoring activities of the post-closure plan.

### **2.10.1 Post-Closure Plan**

A specific post-closure plan may be required upon the review of the closure plan.

### **2.10.2 Post-Closure Completion**

Not required at the time of permit issuance.

### 3.0 COMPLIANCE SCHEDULE [A.R.S. § 49-243(K)(5) and A.A.C. R18-9-A208]

For each compliance schedule item listed below, the permittee shall submit the required information, including a cover letter that lists the compliance schedule items, to the Groundwater Section. A copy of the cover letter must also be submitted to the ADEQ Water Quality Compliance Section.

Description	Due by:
The permittee shall begin monthly ambient groundwater quality sampling for 8 consecutive months at the POCs MW-1 and MW-2 for the pollutants and parameters listed in section 4.2, Table IIA.	Within 30 days after permit issuance
The permittee shall submit a letter notifying that eight sampling events have been completed. Include in the letter the dates of eight sampling events.	Within 30 days of completing the last sampling event
Commence Recharge operations	After completing eight rounds of sampling events and notifying ADEQ
The permittee shall submit a report on the groundwater quality data collected from the POC wells, along with a request to amend the permit with a recommendation for setting ALs and AQLs for parameters listed in Table IIB, Routine Groundwater Monitoring.	Within 12 months of permit issuance.
During routine groundwater monitoring (table IIB), if any of the AQLs for nitrogen and total coliform or ALs for other constituents at MW-2 has two consecutive exceedances or three exceedances in a one year period, then MW-3 shall be installed and monitored. Well design for MW-3 shall be similar to MW-1 and MW-2. The screened interval shall intersect the water table and be 60 feet or less in length. The location of MW-3 has already been established.	Within 90 days after the test results are known.
Submit an amendment to include MW-3 as a POC well.	Within 60 days of any exceedance of a parameter as discussed in the above item.



#### 4.0 TABLES OF MONITORING REQUIREMENTS

##### 4.1 PRE-OPERATIONAL MONITORING (OR CONSTRUCTION REQUIREMENTS)

Not applicable at permit issuance.

#### 4.0 TABLES OF MONITORING REQUIREMENTS

##### 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IA  
ROUTINE DISCHARGE MONITORING<sup>1</sup>**

Sampling Point Number	Sampling Point Identification		Latitude		Longitude
1	Recharge Weir, inflow from Wetlands		33° 28' 05.16" N		112° 19' 12.42" W
2	Recharge Weir, inflow from WRF (P-100573)		33° 28' 05.16" N		112° 19' 12.42" W
Parameter	AL <sup>2</sup>	DL <sup>3</sup>	Units	Sampling Frequency	Reporting Frequency
Total Flow <sup>4</sup> : Daily	Not Established <sup>5</sup>	Not Established	AFY <sup>6</sup>	Daily	Quarterly
Total Flow: Average Annually	Not Established	15,000	AFY	Annually <sup>7</sup>	Annually

<sup>1</sup> The permittee shall not begin to discharge WRF effluent to basins until ambient groundwater quality data report was submitted

<sup>2</sup> AL = Alert Level

<sup>3</sup> DL = Discharge Limit

<sup>4</sup> Flow from Wetlands as well as effluent from City of Avondale WRF.

<sup>5</sup> Not Established means monitoring is required but no limits are specified.

<sup>6</sup> AFY = Acres-Feet per year

<sup>7</sup> Annually = Calculated value = Average of daily flows in a Year.

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IB**  
**ROUTINE DISCHARGE MONITORING**

Sampling Point Number	Sampling Point Identification		Latitude		Longitude
3	Effluent Pump Station at City of Avondale WRF		33° 23' 59" N		112° 20' 41" W
Parameter	AL <sup>8</sup>	DL <sup>9</sup>	Units	Sampling Frequency	Reporting Frequency
Fecal Coliform: Single sample maximum	No Limit	23.0	CFU or MPN <sup>10</sup>	Daily	Quarterly
Fecal Coliform: four (4) of seven (7) samples in a week <sup>11</sup>	Not established	Non-detect <sup>12</sup>	CFU or MPN	Daily	Quarterly
Total Nitrogen <sup>13</sup> : Five-sample rolling geometric mean	8.0	10.0	mg/l	Monthly <sup>14</sup>	Quarterly

<sup>8</sup>AL = Alert Level

<sup>9</sup>DL = Discharge Limit

<sup>10</sup>CFU = Colony Forming Units / 100 ml sample. MPN = Most Probable Number / 100 ml sample

<sup>11</sup>**Week** means a seven-day period starting on Sunday and ending on the following Saturday.

<sup>12</sup>If at least four (4) of seven (7) samples in a week are non-detect, report “yes” in the appropriate space on the SMRF (indicating that the standard has been met). If at least four (4) of seven (7) samples in a week have detections of fecal coliform, report “no” in the appropriate space on the SMRF (indicating that the standard has **not** been met).

<sup>13</sup>Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen

<sup>14</sup>A five-month geometric mean of the results of the five (5) most recent samples

**4.2 COMPLIANCE (or OPERATIONAL) MONITORING**

**TABLE IB**  
**ROUTINE DISCHARGE MONITORING (continued)**

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<b>Metals (total):</b>					
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly
Barium	1.60	2.00	mg/l	Quarterly	Quarterly
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly
Lead	0.04	0.05	mg/l	Quarterly	Quarterly
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly

#### 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IB**  
**ROUTINE DISCHARGE MONITORING (continued)**

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<b>Volatile Organic Compounds (VOCs):</b>					
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total) <sup>15</sup>	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually

<sup>15</sup> Total Trihalomethanes (TTHMs) are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

#### 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IB**  
**ROUTINE DISCHARGE MONITORING (continued)**

Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
<b>Indicator Parameters / Major Cations and Anions:</b>					
pH (field)	Monitor <sup>16</sup>	Monitor	S.U.	Quarterly	Quarterly
Iron	Monitor	Monitor	mg/l	Quarterly	Quarterly
Manganese	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Organic Carbon	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Dissolved Solids	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sodium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Potassium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Calcium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Magnesium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Chloride	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sulfate	Monitor	Monitor	mg/l	Quarterly	Quarterly
Alkalinity	Monitor	Monitor	mg/l	Quarterly	Quarterly
Specific Conductivity (field)	Monitor	Monitor	µmhos/cm	Quarterly	Quarterly

<sup>16</sup> Monitoring required, but no limits established.

#### 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIA**  
**AMBIENT GROUNDWATER MONITORING**

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
4	Well POC #1, Located near Basin 4 at the northeast corner of the entire facility (ADWR Well # 55-209055), MW-1			33° 28' 12" N	112° 19' 12.9" W
5	Well POC #2, Located at south of the southwest corner of the basins in Friendship Village which is more than 750 feet from PMA (ADWR Well # 55-214588), MW-2			33° 27' 42.2" N	112° 19' 18.3" W
6 <sup>17</sup>	Well POC # 3, Located at south of the center of the basins which is less than 750 feet from PMA: (Contingency), MW-3			33° 27' 47.7" N	112° 19' 17.1" W
Parameter	AL <sup>18</sup>	AQL <sup>19</sup>	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>20</sup> :	N.E. <sup>21</sup>	N.E.	mg/l	Monthly	See footnote <sup>22</sup>
Nitrate-Nitrite as N	N.E.	N.E.	mg/l	Monthly	See footnote
Total Kjeldahl Nitrogen (TKN)	N.E.	N.E.	mg/l	Monthly	See footnote
Total Coliform	Absence	Absence <sup>23</sup>	CFU or MPN <sup>24</sup>	Monthly	See footnote
<b>Metals (total):</b>					
Antimony	N.E.	N.E.	mg/l	Monthly	See footnote
Arsenic	N.E.	N.E.	mg/l	Monthly	See footnote
Barium	N.E.	N.E.	mg/l	Monthly	See footnote
Beryllium	N.E.	N.E.	mg/l	Monthly	See footnote
Cadmium	N.E.	N.E.	mg/l	Monthly	See footnote
Chromium	N.E.	N.E.	mg/l	Monthly	See footnote
Cyanide (as free cyanide)	N.E.	N.E.	mg/l	Monthly	See footnote
Fluoride	N.E.	N.E.	mg/l	Monthly	See footnote
Lead	N.E.	N.E.	mg/l	Monthly	See footnote
Mercury	N.E.	N.E.	mg/l	Monthly	See footnote
Nickel	N.E.	N.E.	mg/l	Monthly	See footnote
Selenium	N.E.	N.E.	mg/l	Monthly	See footnote
Thallium	N.E.	N.E.	mg/l	Monthly	See footnote

<sup>17</sup> Compliance monitoring from sampling point # 6 well is required only if there are any exceedances of ALs at Monitor Well # 2 as required in section 3.0

<sup>18</sup> AL = Alert Level

<sup>19</sup> AQL= Aquifer Quality Limit.

<sup>20</sup> Total Nitrogen is equal to nitrate as N plus nitrite as N plus TKN.

<sup>21</sup> N.E. = Not Established = Monitoring required, but no limits are specified.

<sup>22</sup> Within 12 months of permit issuance.

<sup>23</sup> A positive result for total coliform may be verified with an analysis for fecal coliform. A positive result for fecal coliform or *E. coli* shall be considered an exceedance of the AQL for total coliform.

<sup>24</sup> CFU = Colony Forming Units per 100 ml, MPN = Most Probable Number per 100 ml.

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIA**  
**AMBIENT GROUNDWATER MONITORING (continued)**

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Volatile Organic Compounds (VOCs):</b>					
Benzene	N.E	N.E	mg/l	Monthly	See footnote
Carbon tetrachloride	N.E	N.E	mg/l	Monthly	See footnote
o-Dichlorobenzene	N.E	N.E	mg/l	Monthly	See footnote
para-Dichlorobenzene	N.E	N.E	mg/l	Monthly	See footnote
1,2-Dichloroethane	N.E	N.E	mg/l	Monthly	See footnote
1,1-Dichloroethylene	N.E	N.E	mg/l	Monthly	See footnote
cis-1,2-Dichloroethylene	N.E	N.E	mg/l	Monthly	See footnote
trans-1,2-Dichloroethylene	N.E	N.E	mg/l	Monthly	See footnote
Dichloromethane	N.E	N.E	mg/l	Monthly	See footnote
1,2-Dichloropropane	N.E	N.E	mg/l	Monthly	See footnote
Ethylbenzene	N.E	N.E	mg/l	Monthly	See footnote
Hexachlorobenzene	N.E	N.E	mg/l	Monthly	See footnote
Hexachlorocyclopentadiene	N.E	N.E	mg/l	Monthly	See footnote
Monochlorobenzene	N.E	N.E	mg/l	Monthly	See footnote
Styrene	N.E	N.E	mg/l	Monthly	See footnote
Tetrachloroethylene	N.E	N.E	mg/l	Monthly	See footnote
Toluene	N.E	N.E	mg/l	Monthly	See footnote
Trihalomethanes (total) <sup>25</sup>	N.E	N.E	mg/l	Monthly	See footnote
1,1,1-Trichloroethane	N.E	N.E	mg/l	Monthly	See footnote
1,2,4 - Trichlorobenzene	N.E	N.E	mg/l	Monthly	See footnote
1,1,2 - Trichloroethane	N.E	N.E	mg/l	Monthly	See footnote
Trichloroethylene	N.E	N.E	mg/l	Monthly	See footnote
Vinyl Chloride	N.E	N.E	mg/l	Monthly	See footnote
Xylenes (Total)	N.E	N.E	mg/l	Monthly	See footnote

<sup>25</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

#### 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIA**  
**AMBIENT GROUNDWATER MONITORING (continued)**

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Indicator Parameters / Major Cations and Anions:</b>					
pH (field)	Monitor <sup>26</sup>	Monitor	S.U.	Monthly	See footnote
Iron	Monitor	Monitor	mg/l	Monthly	See footnote
Manganese	Monitor	Monitor	mg/l	Monthly	See footnote
Total Organic Carbon	Monitor	Monitor	mg/l	Monthly	See footnote
Total Dissolved Solids	Monitor	Monitor	mg/l	Monthly	See footnote
Sodium	Monitor	Monitor	mg/l	Monthly	See footnote
Potassium	Monitor	Monitor	mg/l	Monthly	See footnote
Calcium	Monitor	Monitor	mg/l	Monthly	See footnote
Magnesium	Monitor	Monitor	mg/l	Monthly	See footnote
Chloride	Monitor	Monitor	mg/l	Monthly	See footnote
Sulfate	Monitor	Monitor	mg/l	Monthly	See footnote
Alkalinity	Monitor	Monitor	mg/l	Monthly	See footnote
Specific Conductivity (field)	Monitor	Monitor	µmhos/cm	Monthly	See footnote

<sup>26</sup> Monitoring required, but no limits established.



#### 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIB**  
**ROUTINE GROUNDWATER MONITORING**

Sampling Point Number	Sampling Point Identification			Latitude	Longitude
4	Well POC #1, Located near Basin 4 at the northeast corner of the entire facility (ADWR Well # 55-209055), MW-1			33° 28' 12" N	112° 19' 12.9" W
5	Well POC #2, Located at south of the southwest corner of the basins in Friendship Village which is more than 750 feet from PMA (ADWR Well # 55-214588), MW-2			33° 27' 42.2" N	112° 19' 18.3" W
6 <sup>27</sup>	Well POC # 3, Located at south of the center of the basins which is less than 750 feet from PMA: (Contingency), MW-3			33° 27' 47.7" N	112° 19' 17.1" W
Parameter	AL <sup>28</sup>	AQL <sup>29</sup>	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen <sup>30</sup> :	Reserved <sup>31</sup>	Reserved	mg/l	Monthly	Quarterly
Nitrate-Nitrite as N	Reserved	Reserved	mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Reserved	Reserved	mg/l	Monthly	Quarterly
Total Coliform	Reserved	Reserved	CFU or MPN <sup>32</sup>	Monthly	Quarterly
<b>Metals (total):</b>					
Antimony	Reserved	Reserved	mg/l	Quarterly	Quarterly
Arsenic	Reserved	Reserved	mg/l	Quarterly	Quarterly
Barium	Reserved	Reserved	mg/l	Quarterly	Quarterly
Beryllium	Reserved	Reserved	mg/l	Quarterly	Quarterly
Cadmium	Reserved	Reserved	mg/l	Quarterly	Quarterly
Chromium	Reserved	Reserved	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	Reserved	Reserved	mg/l	Quarterly	Quarterly
Fluoride	Reserved	Reserved	mg/l	Quarterly	Quarterly
Lead	Reserved	Reserved	mg/l	Quarterly	Quarterly
Mercury	Reserved	Reserved	mg/l	Quarterly	Quarterly
Nickel	Reserved	Reserved	mg/l	Quarterly	Quarterly
Selenium	Reserved	Reserved	mg/l	Quarterly	Quarterly
Thallium	Reserved	Reserved	mg/l	Quarterly	Quarterly

<sup>27</sup> Compliance monitoring from sampling point # 6 is required only if there are any exceedances of ALs at Monitor Well #2 as described in Section 3.0

<sup>28</sup> AL = Alert Level

<sup>29</sup> AQL = Aquifer Quality Limit

<sup>30</sup> Total Nitrogen is equal to nitrate as N plus nitrite as N plus TKN.

<sup>31</sup> ALs and AQLs will remain reserved until the permittee submit ambient groundwater quality report.

<sup>32</sup> CFU = Colony Forming Units per 100 ml, MPN = Most Probable Number per 100 ml.

## 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIB**  
**ROUTINE GROUNDWATER MONITORING (continued)**

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Volatile Organic Compounds (VOCs):</b>					
Benzene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Carbon tetrachloride	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
o-Dichlorobenzene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
para-Dichlorobenzene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
1,2-Dichloroethane	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Dichloromethane	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
1,2-Dichloropropane	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Ethylbenzene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Hexachlorobenzene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Monochlorobenzene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Styrene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Tetrachloroethylene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Toluene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Trihalomethanes (total) <sup>33</sup>	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Trichloroethylene	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Vinyl Chloride	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually
Xylenes (Total)	Reserved	Reserved	mg/	Semi-Annually	Semi-Annually

<sup>33</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

#### 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIB**  
**ROUTINE GROUNDWATER MONITORING (continued)**

Parameter	AL	AQL	Units	Sampling Frequency	Reporting Frequency
<b>Indicator Parameters / Major Cations and Anions:</b>					
pH (field)	Monitor <sup>34</sup>	Monitor	S.U.	Quarterly	Quarterly
Iron	Monitor	Monitor	mg/l	Quarterly	Quarterly
Manganese	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Organic Carbon	Monitor	Monitor	mg/l	Quarterly	Quarterly
Total Dissolved Solids	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sodium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Potassium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Calcium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Magnesium	Monitor	Monitor	mg/l	Quarterly	Quarterly
Chloride	Monitor	Monitor	mg/l	Quarterly	Quarterly
Sulfate	Monitor	Monitor	mg/l	Quarterly	Quarterly
Alkalinity	Monitor	Monitor	mg/l	Quarterly	Quarterly
Specific Conductivity (field)	Monitor	Monitor	μmhos/cm	Quarterly	Quarterly

<sup>34</sup> Monitoring required, but no limits established.

#### 4.2 COMPLIANCE (or OPERATIONAL) MONITORING

**TABLE IIC**  
**GROUNDWATER OPERATIONAL WATER LEVEL MONITORING**

Sampling Point #	Identification	ADWR Registration #	Cadastral Location	Screened Interval Feet(bgs)	AL <sup>35</sup> Units (feet below landsurface)	Monitoring Frequency	Reporting Frequency
<b>Water Level Monitoring:</b>							
<b>4</b>	MW-1	55-209055	B(2-1) 36cba	80 to 130	25	Monthly	Quarterly
<b>5</b>	MW-2	55-214588	B(1-1) 02aad	80 to 130	25	Monthly	Quarterly
<b>7</b>	P-1	55-570407	B(2-1) 36ccd	25 to 45	25	Monthly	Quarterly
<b>8</b>	P-2	55-570404	B(1-1) 02abb	39 to 58	25	Monthly	Quarterly
<b>9</b>	COA-1	55-608731	B(1-1) 10ddb	244 to 264 386 to 398	25	Monthly	Quarterly
<b>10</b>	COA-7	55-501288	B(2-1) 23ddd	320 to 530	25	Quarterly	Quarterly
<b>11</b>	COA-8	55-608730	B(2-1) 32dda	187 to 500	25	Quarterly	Quarterly
<b>12</b>	COA-10	55-608792	B(2-1) 36bba	255-768	25	Quarterly	Quarterly
<b>13</b>	COA-11	55-608791	B(2-1) 36cba	80 to 618	25	Quarterly	Quarterly
<b>14</b>	COA-12	55-608793	B(2-1) 35dda	200 to 867	25	Quarterly	Quarterly
<b>15</b>	COA-18	55-607157	B(2-1) 02bbb	150 to 800	25	Quarterly	Quarterly
<b>16</b>	RID-2	55-607158	B(1-1) 10aaa2	100 to 886	25	Quarterly	Quarterly

<sup>35</sup> AL = Alert Level = An AL less than 25 feet will be considered an exceedance.

**4.2 COMPLIANCE (or OPERATIONAL) MONITORING**

**TABLE III**  
**FACILITY INSPECTION (Operational Monitoring)**

<b>Pollution Control Structures/Parameter</b>	<b>Performance Levels</b>	<b>Inspection Frequency</b>	<b>Reporting Frequency</b>
Freeboard in the Recharge Basins	Minimum of two foot	Weekly	Quarterly
Berm integrity (Basins)	No visible structural damage, breach, or erosion of embankments	Weekly	Quarterly
Recharge basins	No operational impairment	Weekly	Quarterly
Monitor Wells	<ul style="list-style-type: none"><li>· Good working condition</li><li>· No biofouling</li><li>· No clogging</li><li>· No daylighting</li></ul>	Monthly	Quarterly
Seepage into Agua Fria River from Basins	No seepage visually	Monthly	Quarterly

## **5.0 REFERENCES AND PERTINENT INFORMATION**

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with the Department:

1. APP Application, dated: 05/17/2007
2. Contingency Plan, dated: 05/17/2007
3. Final Hydrologist Report, dated: 02/19/2007
4. Final Engineering Report, dated:
5. Public Notice, dated:
6. Public Hearing, dated: Not applicable
7. Responsiveness Summary, dated: Not applicable

## **6.0 NOTIFICATION PROVISIONS**

### **6.1 Annual Registration Fees**

The permittee is notified of the obligation to pay an Annual Registration Fee to ADEQ. The Annual Registration Fee is based upon the amount of daily influent or discharge of pollutants in gpd as established by A.R.S. § 49-242(D).

### **6.2 Duty to Comply [A.R.S. §§ 49-221 through 263]**

The permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of Title 49, Chapter 2, Articles 1, 2 and 3 of the Arizona Revised Statutes, Title 18, Chapter 9, Articles 1 through 4, and Title 18, Chapter 11, Article 4 of the Arizona Administrative Code. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

### **6.3 Duty to Provide Information [A.R.S. §§ 49-243(K)(2) and 49-243(K)(8)]**

The permittee shall furnish to the Director, or an authorized representative, within a time specified, any information which the Director may request to determine whether cause exists for amending or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

### **6.4 Compliance with Aquifer Water Quality Standards [A.R.S. §§ 49-243(B)(2) and 49-243(B)(3)]**

The permittee shall not cause or contribute to a violation of an AWQS at the applicable POC for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an AWQS for a pollutant, the permittee shall not discharge that pollutant so as to further degrade, at the applicable point of compliance for the facility, the water quality of any aquifer for that pollutant.

### **6.5 Technical and Financial Capability [A.R.S. §§ 49-243(K)(8) and 49-243(N) and A.A.C. R18-9-A202(B) and R18-9-A203(E) and (F)]**

The permittee shall have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of this permit. Any bond, insurance policy, trust fund, or other financial assurance mechanism provided as a demonstration of financial capability in the permit application, pursuant to A.A.C. R18-9-A203(D), shall be in effect prior to any discharge authorized by this permit and shall remain in effect for the duration of the permit.

### **6.6 Reporting of Bankruptcy or Environmental Enforcement [A.A.C. R18-9-A207(C)]**

The permittee shall notify the Director within five days after the occurrence of any one of the following:

1. the filing of bankruptcy by the permittee; or
2. the entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.

### **6.7 Monitoring and Records [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A206]**

The permittee shall conduct any monitoring activity necessary to assure compliance with this permit, with the applicable water quality standards established pursuant to A.R.S. §§ 49-221 and 49-223 and §§ 49-241 through 49-252.

**6.8 Inspection and Entry [A.R.S. §§ 49-1009, 49-203(B), and 49-243(K)(8)]**

In accordance with A.R.S. §§ 41-1009 and 49-203(B), the permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to enter and inspect the facility as reasonably necessary to ensure compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, and Title 18, Chapter 9, Articles 1 through 4 of the Arizona Administrative Code and the terms and conditions of this permit.

**6.9 Duty to Modify [A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A211]**

The permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices authorized by this permit.

**6.10 Permit Action: Amendment, Transfer, Suspension, and Revocation  
[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]**

This permit may be amended, transferred, suspended, or revoked for cause, under the rules of the Department. The permittee shall notify the Groundwater Section in writing within 15 days after any change in the owner or operator of the facility. The notification shall state the permit number, the name of the facility, the date of property transfer, and the name, address, and phone number where the new owner or operator can be reached. The operator shall advise the new owner or operators of the terms of this permit and the need for permit transfer in accordance with the rules.

**7.0 ADDITIONAL PERMIT CONDITIONS**

**7.1 Other Information [A.R.S. § 49-243(K)(8)]**

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit the correct facts or information.

**7.2 Severability  
[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

**7.3 Permit Transfer**

This permit may not be transferred to any other person except after notice to and approval of the transfer by the Department. No transfer shall be approved until the applicant complies with all transfer requirements as specified in A.A.C. R18-9-A212(B) and (C).